

WHAT IS CLAIMED IS:

- 1 1. A method for determining preference information, comprising:
2 determining preference information associated with a consumer; and
3 mixing the preference information with preference information associated
4 with a plurality of consumers,
5 wherein a degree to which the preference information associated with the
6 consumer is mixed with the preference information associated with the plurality of
7 consumers is different than a second degree to which second preference
8 information associated with a second consumer is mixed with preference
9 information of a second plurality of consumers.
- 1 2. A method according to Claim 1, wherein the preference information
2 associated with the consumer and the preference information associated with the
3 plurality of other consumers comprise normalized part worth values.
- 1 3. A method according to Claim 2, wherein the preference information
2 associated with the consumer and the preference information associated with the
3 plurality of other consumers comprise currency-normalized part worth values.
- 1 4. A method according to Claim 1, further comprising:
2 selecting the plurality of consumers from a group of past consumers
3 based on attribute levels identified as unacceptable by each consumer of the
4 group of past consumers.
- 1 5. A method according to Claim 4, wherein the selected plurality of
2 consumers are members of the group of past consumers who identified similar
3 attribute levels as unacceptable.
- 1 6. A method according to Claim 1, further comprising:

2 selecting the plurality of consumers from a group of past consumers
3 based on part worth values associated with each consumer of the group of past
4 consumers.

1 7. A method according to Claim 6, wherein the selected plurality of
2 consumers are members of the group of past consumers who are associated
3 with similar preference information.

1 8. A method according to Claim 1, wherein mixing the preference
2 information comprises:

3 normalizing the preference information;
4 determining consumer subgroups;
5 assigning the consumer to one of the consumer subgroups; and
6 mixing preference information associated with the one of the consumer
7 subgroups with the preference information associated with the consumer.

1 9. A method according to Claim 8, wherein determining consumer
2 subgroups comprises:
3 assigning past consumers to subgroups based on attribute levels that the
4 past consumers indicated as unacceptable.

1 10. A method according to Claim 8, wherein determining consumer
2 subgroups comprises:
3 assigning past consumers to subgroups based on part worth values
4 associated with the past consumers.

1 11. A method according to Claim 1, wherein mixing the preference
2 information comprises:
3 providing trade-off questions to the consumer;
4 receiving actual answers to the trade-off questions;

5 predicting consumer answers to the trade-off questions based on the
6 preference information associated with the consumer; and
7 predicting subgroup answers to the trade-off questions based on the
8 preference information associated with the plurality of consumers,
9 wherein the preference information is mixed with the preference
10 information associated with the plurality of consumers based on the actual
11 answers, the predicted consumer answers and the predicted subgroup answers.

1 12. A method according to Claim 11, further comprising:
2 determining a mixing parameter based on the actual answers, the
3 predicted consumer answers and the predicted subgroup answers,
4 wherein the preference information is mixed with the preference
5 information associated with the plurality of consumers based on the mixing
6 parameter.

1 13. A method according to Claim 1, further comprising:
2 determining an offer to sell a product based on the mixed preference
3 information.

1 14. A method according to Claim 13, further comprising:
2 providing the offer to the consumer.

1 15. A method according to Claim 1, wherein the first plurality of
2 consumers is identical to the second plurality of consumers.

1 16. A method according to Claim 1, wherein the first plurality of
2 consumers does not include any consumers belonging to the second plurality of
3 consumers.

1 17. A method according to Claim 1, wherein one or more of the first
2 plurality of consumers are members of the second plurality of consumers.

1 18. A method according to Claim 1, wherein the plurality of consumers
2 comprises all past consumers for whom preference information is stored.

1 19. A method according to Claim 1, wherein the plurality of consumers
2 comprises a predetermined number of past consumers for whom preference
3 information is stored.

1 20. A method according to Claim 19, wherein the predetermined number
2 of past consumers are determined based on a time at which preference
3 information associated with each of the predetermined number of consumers
4 was collected.

1 21. A method according to Claim 1, wherein the plurality of consumers
2 comprises all past consumers for whom preference information was collected
3 during a particular time period.

1 22. A method for determining preference information, comprising:
2 determining preference information associated with a consumer;
3 validating the preference information; and
4 mixing the preference information with preference information associated
5 with a plurality of consumers based on the validating step.

1 23. A method according to Claim 22, wherein the validating step
2 comprises:
3 providing trade-off questions to the consumer;
4 receiving actual answers to the trade-off questions; and
5 predicting consumer answers to the trade-off questions based on the
6 preference information associated with the consumer.

1 24. A method according to Claim 23, further comprising:

2 predicting subgroup answers to the trade-off questions based on the
3 preference information associated with the plurality of consumers,
4 wherein the preference information is mixed with the preference
5 information associated with the plurality of consumers based on the actual
6 answers, the predicted consumer answers and the predicted subgroup answers.

1 25. A method according to Claim 24, further comprising:
2 determining a mixing parameter based on the actual answers, the
3 predicted consumer answers and the predicted subgroup answers,
4 wherein the preference information is mixed with the preference
5 information associated with the plurality of consumers based on the mixing
6 parameter.

1 26. A method according to Claim 22, further comprising:
2 determining a mixing parameter based on the validating step,
3 wherein the preference information is mixed with the preference
4 information associated with the plurality of consumers based on the mixing
5 parameter.

1 27. A method according to Claim 22, further comprising:
2 selecting the plurality of consumers from a group of consumers based on
3 attribute levels indicated as unacceptable by each consumer of the group of past
4 consumers.

1 28. A method according to Claim 27, wherein the selected plurality of
2 consumers are members of the group of past consumers who identified similar
3 attribute levels as unacceptable.

1 29. A method according to Claim 22, further comprising:

2 selecting the plurality of consumers from a group of past consumers
3 based on part worth values associated with each consumer of the group of past
4 consumers.

1 30. A method according to Claim 29, wherein the selected plurality of
2 consumers are members of the group of past consumers who are associated
3 with similar part worth values.

1 31. A method to produce consumer preference information, comprising:
2 determining consumer preference information associated with a
3 consumer; and
4 currency-normalizing the consumer preference information.

1 32. A method according to Claim 31, further comprising:
2 providing an offer based on the currency-normalized information.

1 33. A method according to Claim 32, further comprising:
2 providing the offer to the consumer.

1 34. A method, in a system to collect consumer preference information, for
2 determining consumer trade-off questions based on a plurality of attribute levels,
3 each of the plurality of attribute levels being associated with an attribute and a
4 part worth utility value, the method comprising:

5 grouping the attribute levels into objects including two attribute levels,
6 each of the two attribute levels of an object being associated with different
7 attributes; and

8 grouping the objects into pairs including two objects, a first object of a pair
9 including a first two attribute levels associated with two attributes and a second
10 object of the pair including a second two attribute levels associated with the two
11 attributes; and

12 selecting, from the pairs, a plurality of pairs on which to base trade-off
13 questions,
14 wherein a first pair is more likely to be selected than a second pair if a
15 sum of part worth utility values associated with each attribute level of the first pair
16 is greater than a sum of part worth utility values associated with each attribute
17 level of the second pair.

1 35. A method according to Claim 34, wherein a first attribute level of the
2 first object of a pair is associated with a part worth utility value that is greater than
3 a part worth utility value associated with an attribute level of the second object of
4 the pair that is associated with a same attribute as the first attribute level, and
5 wherein a second attribute level of the first object of the pair is associated
6 with a part worth utility value that is less than a part worth utility value associated
7 with an attribute level of the second object of the pair that is associated with a
8 same attribute as the second attribute level.

1 36. A method according to Claim 34, wherein the first pair is more likely to
2 be selected than the second pair if a difference between the sums of part worth
3 utility values associated with the attribute levels of each object of the first pair is
4 less than a difference between the sums of part worth utility values associated
5 with the attribute levels of each object of the second pair.

1 37. A method according to Claim 34, wherein the plurality of selected
2 pairs do not include more than three pairs including attribute levels associated
3 with a same attribute.

1 38. A method according to Claim 34, wherein the plurality of selected
2 pairs do not include more than two pairs including a same object.

1 39. A medium storing processor-executable process steps, the process
2 steps comprising:

3 a step to determine preference information associated with a consumer;

4 and

5 a step to mix the preference information with preference information
6 associated with a plurality of consumers,

7 wherein a degree to which the preference information associated with the
8 consumer is mixed with the preference information associated with the plurality of
9 consumers is different than a second degree to which second preference
10 information associated with a second consumer is mixed with preference
11 information of a second plurality of consumers.

1 40. A medium according to Claim 39, wherein the preference information
2 associated with the consumer and the preference information associated with the
3 plurality of other consumers comprise normalized part worth values.

1 41. A medium according to Claim 40, wherein the preference information
2 associated with the consumer and the preference information associated with the
3 plurality of other consumers comprise currency-normalized part worth values.

1 42. A medium according to Claim 39, the process steps further
2 comprising:

3 a step to select the plurality of consumers from a group of past consumers
4 based on attribute levels identified as unacceptable by each consumer of the
5 group of past consumers.

1 43. A medium according to Claim 42, wherein the selected plurality of
2 consumers are members of the group of past consumers who identified similar
3 attribute levels as unacceptable.

1 44. A medium according to Claim 39, the process steps further
2 comprising:

3 a step to select the plurality of consumers from a group of past consumers
4 based on part worth values associated with each consumer of the group of past
5 consumers.

1 45. A medium according to Claim 44, wherein the selected plurality of
2 consumers are members of the group of past consumers who are associated
3 with similar preference information.

1 46. A medium according to Claim 39, wherein the step to mix the
2 preference information comprises:

3 a step to normalize the preference information;
4 a step to determine consumer subgroups;
5 a step to assign the consumer to one of the consumer subgroups; and
6 a step to mix preference information associated with the one of the
7 consumer subgroups with the preference information associated with the
8 consumer.

1 47. A medium according to Claim 46, wherein the step to determine
2 consumer subgroups comprises:

3 a step to assign past consumers to subgroups based on attribute levels
4 that the past consumers indicated as unacceptable.

1 48. A medium according to Claim 46, wherein the step to determine
2 consumer subgroups comprises:

3 a step to assign past consumers to subgroups based on part worth values
4 associated with the past consumers.

1 49. A medium according to Claim 39, wherein the step to mix the
2 preference information comprises:

3 a step to provide trade-off questions to the consumer;
4 a step to receive actual answers to the trade-off questions;

5 a step to predict consumer answers to the trade-off questions based on
6 the preference information associated with the consumer; and
7 a step to predict subgroup answers to the trade-off questions based on the
8 preference information associated with the plurality of consumers,
9 wherein the preference information is mixed with the preference
10 information associated with the plurality of consumers based on the actual
11 answers, the predicted consumer answers and the predicted subgroup answers.

1 50. A medium according to Claim 49, the process steps further
2 comprising:

3 a step to determine a mixing parameter based on the actual answers, the
4 predicted consumer answers and the predicted subgroup answers,
5 wherein the preference information is mixed with the preference
6 information associated with the plurality of consumers based on the mixing
7 parameter.

1 51. A medium according to Claim 39, the process steps further
2 comprising:

3 a step to determine an offer to sell a product based on the mixed
4 preference information.

1 52. A medium according to Claim 51, the process steps further
2 comprising:

3 a step to provide the offer to the consumer.

1 53. A medium according to Claim 39, wherein the first plurality of
2 consumers is identical to the second plurality of consumers.

1 54. A medium according to Claim 39, wherein the first plurality of
2 consumers does not include any consumers belonging to the second plurality of
3 consumers.

1 55. A medium according to Claim 39, wherein one or more of the first
2 plurality of consumers belong to the second plurality of consumers.

1 56. A medium according to Claim 39, wherein the plurality of consumers
2 comprises all past consumers for whom preference information is stored.

1 57. A medium according to Claim 39, wherein the plurality of consumers
2 comprises a predetermined number of past consumers for whom preference
3 information is stored.

1 58. A method according to Claim 57, wherein the predetermined number
2 of past consumers are determined based on a time at which preference
3 information associated with each of the predetermined number of consumers
4 was collected.

1 59. A medium according to Claim 39, wherein the plurality of consumers
2 comprises all past consumers for whom preference information was collected
3 during a particular time period.

1 60. A medium storing processor-executable process steps, the process
2 steps comprising:
3 a step to determine preference information associated with a consumer;
4 a step to validate the preference information; and
5 a step to mix the preference information with preference information
6 associated with a plurality of consumers based on the validating step.

1 61. A medium according to Claim 60, wherein the validating step
2 comprises:
3 a step to provide trade-off questions to the consumer;
4 a step to receive actual answers to the trade-off questions; and

5 a step to predict consumer answers to the trade-off questions based on
6 the preference information associated with the consumer.

1 62. A medium according to Claim 61, the process steps further
2 comprising:

3 a step to predict subgroup answers to the trade-off questions based on the
4 preference information associated with the plurality of consumers,
5 wherein the preference information is mixed with the preference
6 information associated with the plurality of consumers based on the actual
7 answers, the predicted consumer answers and the predicted subgroup answers.

1 63. A medium according to Claim 62, the process steps further
2 comprising:

3 a step to determine a mixing parameter based on the actual answers, the
4 predicted consumer answers and the predicted subgroup answers,
5 wherein the preference information is mixed with the preference
6 information associated with the plurality of consumers based on the mixing
7 parameter.

1 64. A medium according to Claim 60, the process steps further
2 comprising:

3 a step to determine a mixing parameter based on the validating step,
4 wherein the preference information is mixed with the preference
5 information associated with the plurality of consumers based on the mixing
6 parameter.

1 65. A medium according to Claim 60, the process steps further
2 comprising:

3 a step to select the plurality of consumers from a group of consumers
4 based on attribute levels indicated as unacceptable by each consumer of the
5 group of past consumers.

1 66. A medium according to Claim 65, wherein the selected plurality of
2 consumers are members of the group of past consumers who identified similar
3 attribute levels as unacceptable.

1 67. A medium according to Claim 60, the process steps further
2 comprising:

3 a step to select the plurality of consumers from a group of past consumers
4 based on part worth values associated with each consumer of the group of past
5 consumers.

1 68. A medium according to Claim 67, wherein the selected plurality of
2 consumers are members of the group of past consumers who are associated
3 with similar part worth values.

1 69. A medium storing processor-executable process steps to produce
2 consumer preference information, the process steps comprising:
3 a step to determine consumer preference information associated with a
4 consumer; and
5 a step to currency-normalize the consumer preference information.

1 70. A medium according to Claim 69, the process steps further
2 comprising:
3 a step to provide an offer based on the currency-normalized information.

1 71. A medium according to Claim 70, the process steps further
2 comprising:
3 a step to provide the offer to the consumer.

1 72. A medium, for use in a system to collect consumer preference
2 information, storing processor-executable process steps to determine consumer
3 trade-off questions based on a plurality of attribute levels, each of the plurality of

4 attribute levels being associated with an attribute and a part worth utility value,
5 the process steps comprising:

6 a step to group the attribute levels into objects including two attribute
7 levels, each of the two attribute levels of an object being associated with different
8 attributes; and

9 a step to group the objects into pairs including two objects, a first object of
10 a pair including a first two attribute levels associated with two attributes and a
11 second object of the pair including a second two attribute levels associated with
12 the two attributes; and

13 a step to select, from the pairs, a plurality of pairs on which to base trade-
14 off questions,

15 wherein a first pair is more likely to be selected than a second pair if a
16 sum of part worth utility values associated with each attribute level of the first pair
17 is greater than a sum of part worth utility values associated with each attribute
18 level of the second pair.

1 73. A medium according to Claim 72, wherein a first attribute level of the
2 first object of a pair is associated with a part worth utility value that is greater than
3 a part worth utility value associated with an attribute level of the second object of
4 the pair that is associated with a same attribute as the first attribute level, and

5 wherein a second attribute level of the first object of the pair is associated
6 with a part worth utility value that is less than a part worth utility value associated
7 with an attribute level of the second object of the pair that is associated with a
8 same attribute as the second attribute level.

1 74. A medium according to Claim 72, wherein the first pair is more likely
2 to be selected than the second pair if a difference between the sums of part
3 worth utility values associated with the attribute levels of each object of the first
4 pair is less than a difference between the sums of part worth utility values
5 associated with the attribute levels of each object of the second pair.

1 75. A medium according to Claim 72, wherein the plurality of selected
2 pairs do not include more than three pairs including attribute levels associated
3 with a same attribute.

1 76. A medium according to Claim 72, wherein the plurality of selected
2 pairs do not include more than two pairs including a same object.